

Arthur H. SARKISSIAN
Appl. No. 09/835,884

In the Title:

Kindly amend the title to read as follows:

Key-Surround Data Input Module Keyboard Inputting Device.

In the Specification:

Kindly amend lines 3-4 of page 1 of the Description, as would be apparent to those skilled in the art, to read as follows:

Figure 1 represents a key-surround data input module keyboard or nesting module embodying principles of the present invention.

Kindly amend lines 4-8 of page 1 of the Description, as would be apparent to those skilled in the art, to read as follows:

It is shown from a top plan view to have a middle key 1 at its focus, a circular washer-shaped ~~non-rotational~~ stationary key-surround key, and an optional, in this case circular, bordering wall 5 which here separates the middle key from its most adjacent key-surround key 2. In other embodiments, the key surround key need not be concentric nor more than substantially circular. Also, the key-surround key also need not completely surround the middle key.

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Kindly amend lines 10-14 of Page 1 of the Description, as would be apparent to those skilled in the art, to read as follows:

Dotted line 3 and all other such lines of this key-surround module illustration represent either a dividing line between key parts or a dividing line between zones of actuating contact points depending upon the embodiment. Space 4 may therefore represent a key part in a key-arrangement key-surround key or an area of multiple actuating contact points in a floating pivotable key-surround key.

Kindly amend lines 16-22 of page 1 of the Description, as would be apparent to those skilled in the art, to read as follows:

The Key-Surround data input module keyboard inputting device is not intended to be limited to, for example, a Qwerty keyboard embodiment whereas there are other embodiments such as Stenographic TM keyboards, musical keyboards and other inputting devices for other equipment which contain inputting values which can be inputted by the key-surround module inputting device. In the case of Figure 2, however, middle key 6 has the key-value for "J", with a circular washer-shaped key-surround key having the values, for keys numbered 7 through 11, for "U", "Y", "H", "N", and "M" respectively.

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Kindly amend the first paragraph on page 1 at line 14 of the Description, as would be apparent to those skilled in the art, with the following additional line found in applicant's original specification:

This two-dimensional illustration is also applicable to any touch sensitive touch screen display displaying a graphical user interface of a key-surround data input module keyboard inputting device.

Kindly amend lines 22-23 of page 1 through line 2 of page 2 of the Description, as would be apparent to those skilled in the art, to read as follows:

Whereas this figure depicts a top view, these key-values may be for parts of a key-arrangement key-surround key as well as for areas of multiple actuating contact points of a floating pivotable key-surround key.

Kindly amend lines 8-14 of page 2 of the Description, as would be apparent to those skilled in the art, to read as follows consistent with applicant's original disclosure, to read as follows:

Figures 3a, 3b and 3c represent several embodiments of key-surround modules. Figure 31 illustrates a side view of a key-arrangement key-surround module where top and bottom actuating contact point parts 18 and 19 are held apart by the flexible exterior 17. Dotted lines

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such as that of 20 here illustrate connections of such flexible material. Top actuating contact point 18 is attached to the inside top of the key-surround key at 23 and actuating contact point bottom is secured to the base of the key-surround key. Output signal is made once the exterior above the appropriate actuating construct, in this case at 23, is pressed. Output is achieved in all key-surround keys of all embodiments of the key-surround data input module keyboard inputting device by the user's pressing down upon key-surround keys and not by rotating said key-surround keys.

Kindly amend lines 15-20 of page 2 of the Description, as would be apparent to those skilled in the art, to read as follows consistent with applicant's original disclosure, to read as follows:

Actuating contact points may be either, in this case, capacitive or hard-contact. The signal circuitry is illustrated as 24 along the circumference and perpendicular to the circumference toward the center of the key-surround key. Middle key 21 has one actuating contact point beneath it at 22.

Kindly amend lines 22-23 of page 2 of the Description, as as would be apparent to those skilled in the art, to read as follows:

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Middle key 29 with actuating contact point 31, either capacitive or hard-contact, nests within key-arrangement key surround key 30.

Kindly amend lines 4-11 of page 3 of the description, as would be apparent to those skilled in the art, to read as follows:

Key 33 has beneath it one actuating contact point 34 which can be either capacitive or hard-contact. This key-arrangement key-surround key need not have any dividers between its individual inputting parts for its shape and its actuating contact point 34 keep it in place and keep it from interfering with the other key parts of the key-surround key. It is however possible to have a wall 35 as in this case. Output signals are carried through circuits like that of 35, toward the center of the key-surround key.

Kindly amend lines 20-23 of page 3 through lines 2-4 of page 4 of the Description, as would be apparent to those skilled in the art, to read as follows:

When the key-surround key is pressed, nodes placed under the top of key-surround key 42 and along the circumference of the key-surround key like that of 47 come into contact with actuating contact points like that of 48 causing an output signal to be made.

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Said actuating contact points can be capacitive or hard-contact and are secured to the bottom 51 of the key-surround key.

Kindly amend lines 12-14 of page 3 of the Description, as would be apparent to those skilled in the art, to read as follows:

Figure 3c illustrates a key-surround data input module inputting device embodiment which in this case has a trackball cursor navigating device as its middle key surrounded by a floating pivotable key-surround key.

Kindly amend lines 8-11 of page 4 of the Description, as would be apparent to those skilled in the art, to read as follows:

Output signal carriers such as that of 50 transport signals along bottom 51 towards the center of the key-surround key.

Figure 4 illustrates a key-surround data input module keyboard inputting device 56 having a middle key 57, and a plurality of circular, washer-shaped key surrounds keys 58 and 60.

Kindly amend lines 14-15 of page 4 of the Description , Lines 14-15

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The key-surround data input module keyboard inputting device is not limited to these key shapes and heights.

Kindly amend lines 3-4 of page 5 of the Descriptions, as would be apparent to those skilled in the art, to read as follows: Key-surround data input module keyboard inputting device 56 is held in track 61 by its central peg 63 and peg support 64.

Kindly amend lines 11-12 of page 5 of the Description, as would be apparent to those skilled in the art, to read as follows:

Figure 5 illustrates a key-surround data input module keyboard inputting device having a middle key-67, a circular washer-shaped first key-surround key 69, a second circular, washer-shaped key-surround key 71 and a substantially circular, substantially washer-shaped third key-surround key 73.

Kindly amend lines 19-21 of page 5 of the Description, as would be apparent to those skilled in the art, to read as follows:

Figure 6 illustrates an embodiment of the key-surround data input module keyboard inputting device according to the present having a plurality of middle keys each having a

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plurality of substantially circular, substantially washer-shaped and ~~non-rotational~~ stationary key-surround keys forming a series of nesting modules 75, 76, 77, 78, 79, 80, 81 and 82.

Kindly amend lines 16-18 of page 6 of the Description, as would be apparent to those skilled in the art, to read as follows:

To the left of line 86a is the left half of this embodiment of the key-surround data input module keyboard inputting device revealing actuating contact points and their placements which are beneath the key tops of key surround modules 75, 76, 77 and 78.

Kindly amend lines 3-8 of page 8 of the Description, as would be apparent to those skilled in the art, to read as follows:

Key surround key modules 75, 76, 77, 78, 79, 80, 81 and 82 have one or more key-surround keys. In this depicted embodiment there are a plurality of such key-surround modules or nesting modules which form the key-surround data input module keyboard inputting device. These nesting modules are arranged in this case in a concave curved arrangement such that middle keys coincide with the curvature of the users finger tips at rest for greater comfort.

Kindly amend lines 1-3 of page 9 of the Description, as would be apparent to those skilled in the art, to read as follows:

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Figure 7 illustrates an embodiment of the key-surround data input module keyboard inputting device according to the present invention having a plurality of key-surround modules 132 and 133, each having a plurality of middle keys.

Kindly amend lines 17-19 of page 9 of the Description, as would be apparent to those skilled in the art, to read as follows:

At such lines it is possible to have separated keys, borders between keys or continuous surfaces with actuating contact points beneath which change in key-values at lines such as 141 (See Figures 3a to 3b).

Kindly amend line 2-5 of page 10 of the Description, as would be apparent to those skilled in the art, to read as follows:

Thus, said first key-surround base contains the actuating contact points for key-arrangement key-surround keys and floating pivotable key-surround keys. This key-surround contains a plurality of actuating contact points, either capacitive or hard-contact.

Kindly amend lines 7-17 of page 10 of the Description, as would be apparent to those skilled in the art, to read as follows:

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Key-surround base 148 contains a plurality of actuating contact points such as that of 149 in groups connected by circuitry such as 150. Key-surround base 155 contains a plurality of actuating contact points such as that of 156 in groups connected by circuitry 157. Said actuating contact points can be either hard-contact or capacitive. Such groups of actuating contact points share the same key-value and expand the area on such a key-surround key where the user can input a certain key-value. A flexible part-tubular wall 151 surrounds the base for the floating pivotable key part extending around part of middle key area associated to middle key actuating contact point 147 and extends around the entire base 155.

Kindly amend lines 3-15 of page 11 of the Description, as would be apparent to those skilled in the art, to read as follows:

The second key-surround key base 161 is a base with actuating contact points for a combination key-arrangement and floating pivotable surround key. Actuating contact points such as that of 167 of base 162 surround and in this case particularly surround key-surround base area 148. Circuit 169 connects all actuating contact points so that in this case each actuating contact point of base 162 will signal the same key-value. Base 162 is further divided into bases for key arrangement key-surround keys having groups, in this case of two, four or three actuating contact points, each group having the same key value. The third key-surround base 163 of module 132 is a base for a key-arrangement key surround key having actuating contact points and

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partially surrounding said second key surround 161. All said actuating contact points being either hard-contact or capacitive.

Below key-surround module 132 there is in this case a nesting module 164 having a trackball cursor navigating device actuating contact point 166 and in this case two circular key-surround keys 82a and 82b.

Kindly amend lines 17-20 of page 11 of the Description, as would be apparent to those skilled in the art, to read as follows:

Oval key module 170 is centered below key-surround inputting modules 132 and 133 illustrated in part with key top and part without with underlying base part having a plurality of disbursed actuating contact points such as 172 which can be either capacitive or hard contact contact points.

Kindly amend line 2-4 of page 12 of the Description, as would be apparent to those skilled in the art, to read as follows:

It is possible also to place more than one key-value to these actuating contact points which can either be capacitive or hard-contact contact points.

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Kindly amend lines 12-14 of page 12 of the Description, as would be apparent to those skilled in the art, to read as follows:

In other embodiments the number of keys, key shapes and placements of the key-surround data input module keyboard inputting device will vary.

Figure 8 illustrates a system of tracks which is beneath the surface of the key-surround data input module keyboard inputting device, and specifically, beneath key-modulebases described above.

Kindly amend the second paragraph of page 13 at line 12 of the Description, as would be apparent to those skilled in the art, to read as follows:

A similar system of tracks may be utilized beneath these tracks so that groups of key-modules or nesting modules may be positionally displaced in unison.

Kindly amend lines 13-14 of page 13 of the Description, as would be apparent to those skilled in the art, to read as follows:

Figure 9, labeled as "prior art" is a top view illustration of a conventional Qwerty inputting device having keys with key-values placed in the "Qwerty" scheme of key-value placement.

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Kindly amend lines 3-4 of page 14 of the Description, as would be apparent to those skilled in the art, to read as follows:

Figure 10, labeled ~~"LCD Touch Sensitive Touch Screen Display"~~ illustrates an LCD diode-illuminated matrix display screen overlayed by a touch screen. Other kinds of displays and touch screen combinations may also be utilized without altering the spirit of the invention.

Kindly amend lines 5-11 of page 14 of the Description, as would be apparent to those skilled in the art, to read as follows:

Figure 10 illustrates the touch sensitive touch screen display of this embodiment having an LCD matrix display depicting key-surround modules as a graphical user interface and a touch screen overlay. The depictions of key-surround modules 227, 228, 229, 230, 231, 232, 233, 234, 235 and single key-modules 236 and 237 serve in this touch sensitive touch screen embodiment of the key-surround data input keyboard inputting device as a graphical user interface. Graphical user interfaces are screen depictions which bring forth an action with the user's, in this case touch, interaction.. Figure 10 is divided into two halves separated at dotted line 238 for convenience. To the right of line 238 at 254 is an illustration of the touch sensitive touch screen display as it would be seen by the user. To the left of line 238 is an illustration of the touch sensitive touch screen display which is mounted on top of said LCD matrix display. This left side illustrates disproportionately enlarged touch sensing elements which are actually unseen conductive circuits which detect current changes at points of the user's touch. Differing diagonal

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and crossed lines distinguish the different parts of the graphical user interface key-modules.
When the user touches the touch screen, the point of touch is processed in respect to its coordinates on the touch screen and with respect to the corresponding point coordinates of the LCD matrix display directly underneath and of identical surface area.

Kindly amend in deleting lines 9-16 of page 15 of the Description.

Kindly amend lines 5-8 of page 18 of the Description, as would be apparent to those skilled in the art, to read as follows: Figure 11 is divided into two halves separated at dotted line 287 at 300 illustrating a touch sensitive touch screen display having an LCD matrix display and a touch screen. The illustration to the right of line 287 is the touch sensitive touch screen as it would be seen by the user.

Kindly amend lines 20-21 of page 19 of the Description, as would be apparent to those skilled in the art, to read as follows: Keys in other embodiments may be of different shapes than those illustrated.

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Kindly amend lines 3-12 of page 20 of the Description, as would be apparent to those skilled in the art, to read as follows: Also the number of key-surrounds need not be as many nor be limited in number as those described in this illustration..

Secondly, the area to the left of dotted line 287 may also be described as being solely a touch screen layer with display shapes illuminating through and highlighting touch sensitive ~~circuits~~ areas. With such interpretation, Figure 11 also serves as an illustration of two parts of a touch screen display system illustrating the display screen in half of the illustration to the right of dotted line 287, and the rest of same display screen, that which is to the left, covered by a separate touch screen ~~having touch circuitry~~. Thus, a second such embodiment may be described having a touch screen which covers a separate display underneath.

Kindly amend lines 13-22 of page 20 of the Description, as would be apparent to those skilled in the art, to read as follows:

Figure 12 illustrates a top view of the key-surround data input module keyboard inputting device which may apply to various embodiments of the inputting device.

Figure 12 depicts a top view which has applicability to various embodiments of the key-surround data input module keyboard inputting device. The key-surround data input module keyboard inputting device of Figure 12 contains key-values of the conventional Qwerty keyboard placed so that Qwerty key relationships and positions are maintained. Qwerty inputting can be

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achieved on the smaller surface area of the key-surround data input module keyboard inputting device.

Kindly amend line 23 of page 20 through line 17 of page 21 of the Description, as would be apparent to those skilled in the art, to read as follows:

Key-surround module 312 has the key-value for "A" at its middle key, a first key-surround key having the key-values for "Q", "Capslock" and "A", and, a second key-surround key having the key-values for "!", "1", "Esc", "Shift", "Fn" and "Ctrl". Key surround module 313 has the key-value for "S" as its middle key, a first key-surround key having the key-values for "W" and "X", and, a second key-surround key having the key-values for "@", "2" and "Tab". Key surround module 314 has the key-value for "D" at its middle key, a first key-surround key having key-values for "E" and "C", and, a second key-surround key having key-values for "#", "3" and "NumLock". Key surround module 315 has the key-value for "F" at its middle key, a first key-surround key having the key-values for "R", "T", "G", "B" and "V", and, a second key-surround key having the key-values for "\$", "4", "%", and "5". Key surround module 316 has the key-value for "J" at its middle key, a first key-surround key having the key-values for "U", "Y", "H", "N" and "M", and, a second key surround key having the key-values for "Backspace", "^", "6", "&", "7" and "Ins". Key surround module 317 has the key-value for "K" at its middle key, a first key-surround key having the key-values for "I", "<", and ",", and, a second key-surround key

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having the key-values for "*", "8" and "Alt. Key surround module 318 has the key-value for "L" at its middle key, a first key-surround key having the key-values for "O", ">", ".", and, a second key-surround key having the key-values for "(", "9" and "Del. Key surround module 319 has the key-value for ";" at its middle key, a first key-surround key having the key-values for "Ctrl", "P", "[", "]", "'", ":", "7" and "/", and, a second key-surround key having the key-values for ")", "0", "+", "=" and "Shift". In other embodiments the placements of key-values may be rearranged to best suit the convenience of the user.

Kindly amend lines 4-13 of page 22 of the Description, as would be apparent to those skilled in the art, to read as follows:

In an alternate embodiment the key-values found in Figure 12 could be adapted to a touch sensitive touch screen embodiment. The key-surround module inputting device of Figure 13 contains key-values of the conventional Qwerty keyboard placed so that Qwerty key relationships and positions are maintained achieving inputting in a smaller surface area. Key-surround module 323 contains a middle key having a plurality of rest-position key-values "A", "S", "D", and "F", a first key-surround key having the key-values for "Q", "W", "E", "R", "T", "G", "B", "V", "C", "X", "Z" and "Capslock", and, a second key-surround key having the key values for "Numlock", "Tab", "Ctrl", "Shift", "Fn", "Esc", "!", "1", "@", "2", "#", "3", "\$", "4", "%" and "5". Key-surround module 323 contains a middle key having a plurality of rest-position key-

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values "J", "K", "L", and ":", and, a first key-surround key having the key-values for "M", "N", "H", "Y", "U", "T", "O", "P", "[", "]", "'", "", "?", "/", "Ctrl", ">", ".", "<" and ",", and, a second key-surround key having the key-values for

"Backspace", "^", "6", "&", "7", "Ins", "*", "8", "(", "9", ")", "0", "Alt", "Del", "+", "=", and "Shift". In other embodiments the placements of key-values may be re-arranged to best suit the convenience of the user.

Kindly amend lines 7-10 of page 23 of the Description, as would be apparent to those skilled in the art, to read as follows:

Figure 13 illustrates the top view of the key-surround data input module keyboard inputting device having conventional Qwerty keyboard key-values. In an alternate embodiment the key-values found in Figure 13 could be adapted to a touch sensitive touch screen embodiment.

Kindly amend lines 3-12 of page 20 of the Description, as would be apparent to those skilled in the art, to read as follows: Also the number of key-surrounds need not be as many nor be limited in number as those described in this illustration..

Secondly, the area to the left of dotted line 287 may also be described as being solely a touch screen layer with display shapes illuminating through and highlighting touch sensitive areas.

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With such interpretation, Figure 11 also serves as an illustration of two parts of a touch screen display system illustrating the display screen in half of the illustration to the right of dotted line 287, and the rest of same display screen, that which is to the left, covered by a separate touch screen. Thus, a second such embodiment may be described having a touch screen which covers a separate display underneath

Kindly amend lines 20-23 on page 17 through line 2 on page 18 of the Description, as would be apparent to those skilled in the art, to read as follows:

Secondly, the area to the left of dotted line 238 may also be described as being solely a touch screen layer with display shapes illuminating through and highlighting touch sensitive areas. With such an interpretation, Figure 10 also serves as an illustration of two parts of a touch screen display system illustrating the display screen in half of the illustration to the right of dotted line 238, and the rest of same display screen, the left half covered by a separate touch screen area.

Kindly amend lines 5-8 of page 18 of the Description, as would be apparent to those skilled in the art, to read as follows: Figure 11 is divided into two halves separated at dotted line 287 at 300 illustrating a touch sensitive touch screen display having an LCD matrix display and a touch screen. The illustration to the right of line 287 is the touch sensitive touch screen as it would be seen by the user.

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Kindly amend lines 22 on page 18 through line 3 on page 19 of the Description, as would be apparent to those skilled in the art, to read as follows:

To the left of line 287 the illustration shows the touch sensing areas of the present embodiment of the touch key-surround module inputting device. With regard to the depiction of key-surround module 285, depicted middle key areas 288, 289, 390 and 291 are completely embedded with single circular areas of touch.

Kindly amend lines 10-18 on page 19 of the Description, as would be apparent to those skilled in the art, to read as follows:

Below said touch module 285 is nesting module 305 which has as its middle key a cursor navigating touch key 306 having a circular area of touch sensing which can detect movement of the user's touch or changes in placement of touch. This middle key has a first key-surround key 307 which is circular and has four areas of touch. A second display key-surround key is divided into five areas of touch and which surrounds said first key-surround key completely. Below and centered between display modules 285 and 286 is depicted touch key module 309 having one area which is embedded with one area of touch sensing.

Kindly amend lines 21-22 on page 15 of the Description, as would be apparent to those skilled in the art, to read as follows:

This in turn partly surrounded by third key-surround key 266 divided into two areas of touch.

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Kindly amend lines 9-23 on page 16 through line10 on page 17 of the Description, as would be apparent to those skilled in the art, to read as follows:

This middle key is completely surrounded by an oval display first key-surround key which has two areas of embededness 270 and 270a, such that two key-values may be detected in these two areas of the same key-surround key. The second key-surround key 271 partially surrounds said first key-surround. Third key-surround key 271 partially surrounds said second key-surround key, and is likewise completely embedded with one area of touch sensing. Key-surround module 230 has a display middle key 258 which consists of one circular area of touch. This middle key is surrounded by a first circular area key-surround key with several different areas of embedded touch circuits 273, 274, 275, 276 and 277 where each separate detection area olds a different key-value, The second key-surround key 278 of this display module partially surrounds said first key-surround and has two separate areas of embededness. Third touch key-surround key 279 is also divided into two areas of touch.

Below said four touch key-surround molecules 227, 228, 229, 230 is displayed a touch nesting module 235 with a circular display cursor navigating center 280 having touch which can detect movements of touch or changing positions of touch. This middle key is surrounded by first touch circular key-surround key 281 having four areas of touch, in turn

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completely surrounded by a second touch key-surround key having five areas of touch. Displayed beneath and centered between key-surround modules 230 and 231 is an oval area 236 having one area of touch sensing. Displayed beneath and centered between key-surround modules 230 and 231 is an oval area 236 having one area of touch sensing. Background 283 can be without any touch, may have very low touch sensitivity, or it may have higher touch sensitivity possibly to alert the user if she is inputting out of key bounds.

Kindly amend lines 7-17 of page 10 of the Description, as would be apparent to those skilled in the art, to read as follows:

Key-surround base 148 contains a plurality of actuating contact points such as that of 149 in groups. Key-surround base 155 contains a plurality of actuating contact points such as that of 156 in groups. Said actuating contact points can be either hard-contact or capacitive. Such groups of actuating contact points share the same key-value and expand the area on such a key-surround key where the user can input a certain key-value. A flexible part-tubular wall 151 surrounds the base for the floating pivotable key part extending around part of middle key area associated to middle key actuating contact point 147 and extends around the entire base 155.

Kindly amend lines 15-20 of page 2 of the Description, as would be apparent to those skilled in the art, to read as follows consistent with applicant's original disclosure, to read as follows:

Actuating contact points may be either, in this case, capacitive or hard-contact. The signal is